Sesamoids of the Great Toe

1) ALWAYS Present

34 yo Male, came to ER c/o Toe Pain

Periosteal Reaction!

34 yo Male, came to ER c/o Toe Pain

Sesamoid Destruction!

34 yo Male, came to ER c/o Toe Pain

Gout!

34 yo Male, came to ER c/o Toe Pain

Periosteal Reaction!

Destruction of Lateral Sesamoid

Gout!
Sesamoids of the Great Toe

Imaging
- Radiographs

“Crista” (Intersesamoidal ridge)

Sesamoid Osteomyelitis
- Radiographs
- CT
- MR

T1

T2fs

Deep Ulcer

Key Points
1. Always Present
2. Functionally Important
   - Guide FHL
   - Help stabilize 1st MTP
   - Prevent Hallux Valgus

Hallux Valgus

Normal HV < 15° IM < 9°

Sesamoids anatomic

Mild HV 15-20° IM 9-11°

Sesamoids Lat Sublux < 50%
Sesamoids of the Great Toe

**Hallux Valgus**

- **Moderate**: 20-40°, IM: 11-18°
  - Sesamoids Lat Sublux 75-100%
- **Severe**: >40°, IM: >16-18°
  - Sesamoids Lat Sublux 100%

**Sesamoids**

- Always Present
- Functionally Important
  - Guide FHL
  - Help stabilize 1st MTP
  - Prevent Hallux Valgus
  - Protect MT head cartilage

**Patella**

- Protects femoral cartilage

**Sesamoids**

- Protect MT cartilage

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Sesamoids of the Great Toe

Key Points
1) ALWAYS Present
2) Functionally Important
3) Lateral multipartite are RARE

Case: 34yoF, 1½ years focal pain

Plantar & lateral 1st MT head
Pain ↑ weight-bearing over area
Pain ↑ hyperextension of toe

Split Lateral Ses!
Is this a fractured lateral sesamoid?
Or is this simply a bipartite lateral sesamoid?

Case: 34yoF, 1½ years focal pain

Pain ↑ weight-bearing over area
Pain ↑ hyperextension of toe

Still can't tell...

Sesamoids of the Great Toe

Case: 34yoF, 1½ years focal pain

Clinical History: Evaluate lateral sesamoids

FINDINGS: A vitamin E marker is placed in the area of clinical concern. Markers are present in both clinical areas, suggesting a small amount of fluid. There is also some loss of fluid noted laterally above the dorsal aspect toward the phalanges. No abnormal fluid collection such as ganglion is identified. No soft tissue type mass is seen. The Achilles tendon appears intact. The major ligaments and tendons of the ankle appear intact as well. No evidence for avascular necrosis.

IMPRESSION: Some joint effusion, but no underlying marrow abnormality. The area of clinical concern marked by a vitamin E marker shows no underlying abnormalities.

Case: 34yoF, 1½ years focal pain

Outside MR...

T1:Medial Sesamoid
T1:Lateral Sesamoid

Sesamoids of the Great Toe

Key Points
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Sesamoids of the Great Toe

**Multipartite Sesamoids**

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**Sesamoids of the Great Toe**

4) **Key Points**

1) ALWAYS Present
2) Functionally Important
3) Lateral multipartite are RARE
   - Present in only ~1% of normals
   - If split lateral sesamoid c/w site of pain, I call it a fracture!
4) Medial multipartite are common
   - Present in at least 12% of normals
   - CAN STILL BE PAINFUL!
   - Consider bone scan

**Case: 31yoM, medial Gr toe pain**

Bone Scan (foot-on-detector view)
Sesamoids of the Great Toe

Key Points

1) ALWAYS Present
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3) Lateral multipartite are RARE
   - Present in only ~1% of normals
   - If split lateral sesamoid c/w site of pain, I call it a fracture!
4) Medial multipartite are common
   - Present in at least 12% of normals
   - CAN STILL BE PAINFUL!
   - Consider bone scan

Why don’t the sesamoids have names?

206 named bones
- Patella: largest sesamoid bone has a name
- Innominate bone (“no name”) has a name

Why don’t the sesamoids have names?

0.1% Population

Perhaps they DO have a name...

THE BONE CALLED “LUZ” [Rabbi Uschaia… 210 A.D.]

Genesis Rabbah xviii

Luz (bone)

Muslims and Jews believe this is the bone from which the body will be rebuilt at the time of resurrection, and share the belief that this bone does not decay.

- Hebrew: רוז
- Arabic: عَجْبُ اللَّدِنَّ "'ajbu adh-dhanab

http://en.wikipedia.org/wiki/Luz_(bone)
**Where is Luz?**

End of the Spine?
- Coccyx?
- C7?
- Wormian skull bone?

Sesamoids of Great Toe?

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**What have I learned?**

Sesamoids of the Great Toe:
- Important… so look at them
  - Don’t have a blind spot
- Not indestructible
  - Gout
- Not “Luz”
- Still don’t have names…

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Sesamoids of the foot:

"these bones which magicians and followers of occult philosophy so often call to mind as being fashioned like a chickpea, liable to no decay, and which, buried in the earth after death, will (they affirm) reproduce man like a seed on the day of the Last Judgment."

"These bones, although of durable structure, may be burned or broken like other bones."

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